

## REMARKS

### Claim Status:

- Claims **1-28** are pending.
- Claims **8-28** are withdrawn from consideration as being restricted to a non-elected invention.
- Claims **1-7** are rejected.

### Claim Amendments

- Claims **1-3** and **6-7** are currently amended in this paper.
- New claim **29** is added.

### Election/Restrictions

Applicants herein elect the invention of Group I, claims **1-7**, drawn to an aqueous decontamination formulation, classified in class 252, subclass 186.38.

### Minor Claim Amendment

Claim **7** was amended to replace "carbonate salt" with carbonate or bicarbonate salt, since the term "carbonate salts" does not strictly include the bicarbonate salts.

Claim Rejections

10. Claims 1-2, and 4

The Office rejected claims **1-2** and **4** under 35 USC §102(b) as being anticipated by *Tadros et al.* (WO 02/02192 A1).

Applicants agree with the Office's statement on page 3, section 7 of the Office Action dated 6/24/2005:

*"the "new matter" in the present CIP application is deemed to be the lack of any requirement that the decontamination formulation actually must comprise a "solubilizing compound" selected from the group consisting of cationic surfactant, cationic hydrotrope, and fatty alcohols comprising 8-20 carbon atoms and admixtures thereof."*

Hence, applicants amended claim **1** by incorporating the following limitation:

*"wherein said [aqueous decontamination] does not comprise a solubilizing compound selected from the group consisting of a cationic surfactant, a cationic hydrotrope, and a fatty alcohol comprising 8-20 carbon atoms."*

*Tadros et al.* (WO 02/02192 A1) teaches that a **required component** of *Tadros'* decontamination formulation is a solubilizing compound selected from the group consisting of a cationic surfactant, a cationic hydrotrope, and a fatty alcohol comprising 8-20 carbon atoms.

However, claim **1**, as currently amended, specifically **excludes** this component. Hence, *Tadros et al.* (WO 02/02192 A1) does not anticipate claim **1** because *Tadros et al.* (WO 02/02192 A1) does not teach all of the elements and limitations of claim **1**. Accordingly, the rejection of claim **1** under 35 USC §102(b) is improper and should be withdrawn.

Claims **2** and **3** were amended to delete the reference to a *cationic surfactant (benzalkonium chloride)*, in order to be consistent with the limitations of claim **1**, as currently amended, which specifically excludes a cationic surfactant from the formulation.

Since claims 2 and 4 depend from claim 1, it follows that *Tadros et al.* (WO 02/02192 A1) does not teach all of the elements and limitations of dependent claims 2 and 4. Hence, the rejections of claims 2 and 4 under 35 U.S.C. 102(b) are improper and should be withdrawn.

#### 11. Claims 1-2, and 4

The Office rejected claims 1-2 and 4 under 35 USC §102(e) as being anticipated by *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890).

Applicants submit herein that both references, i.e., *Tadros et al.* (6,566,574) and *Tucker et al.* (6,723,890) were 100% **commonly owned** by, or **subject to an obligation to assign** to, a single common entity, Sandia Corporation, at the time the present invention was made.

Accordingly, the above statement of common ownership is sufficient to **disqualify** these references from being used in a rejection under 35 USC §102(e) against claims 1-2 and 4 of the present application. Accordingly, the rejections of claims 1-2 and 4 under 35 USC §102(e) are improper and should be withdrawn.

#### 12. Claims 1-2, and 4

The Office rejected claims 1-2 and 4 under 35 USC §102(b) as being anticipated by *Kohlus et al.* US Patent Application Publication No. 2002/0132751 A1.

In response, applicants amended claim 1 to limit the "bleaching activator" component to being:

*"a water-soluble bleaching activator selected from the group consisting of short-chained organic compounds that contain an ester bond, ethylene glycol diacetate, propylene glycol monomethyl ether acetate, methyl acetate, diethylene glycol monoethyl ether acetate, glycerol acetate (monoacetin), glycerol diacetate (diacetin), glycerol triacetate (triacetin), acetylcholine chloride, 4-cyanobenzoic acid, propylene glycol diacetate, and combinations thereof."* See Specification at page 11, lines 17-23.

However, *Kohlus et al.* does not teach any kind of a water-soluble bleaching activator.

Since *Kohlus et al.* does not teach all of the elements of claim 1, as currently amended, a *prima facie* case of anticipation cannot be supported. Hence, the rejection of claim 1 under 35 U.S.C. 102(b) is improper and should be withdrawn.

Since claims 2 and 4 depend from claim 1, it follows that *Kohlus et al.* does not teach all of the elements and limitations of dependent claims 2 and 4. Hence, the rejections of claims 2 and 4 under 35 U.S.C. 102(b) are improper and should be withdrawn.

### 13. Claims 1-4 and 6-7

The Office rejected claims 1-4 and 6-7 under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over *Nakagawa et al.* (3,901,819).

*Nakagawa* teaches a bleaching activator composition, for use in laundry detergents: “consisting essentially of (A) an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms, and (B) an acetic acid ester of a polyhydric alcohol having a melting point not higher than about 30 degree C, the weight ratio of A:B being within the range of from 1:9 to 9:1, preferably 1:3 to 3:1, especially about 1:1.” See *Nakagawa*, Col. 1, lines 45-54.

*Nakagawa* also teaches that examples of ingredient (B) include “glycerine triacetate, i.e., triacetin and ethylene glycol diacetate.” See Col. 2, lines 13-14. These are water-soluble bleaching activators.

*Nagakawa* teaches that they discovered, “unexpectedly”, that it was the synergistic combination of ingredients (A) and (B) that greatly enhanced the [bleaching] activating effect. See Col. 1, lines 38-43.

*Nagakawa* further teaches, at Col. 2, lines 22-29: “The synergistic effects of (1) improving the water solubility and (2) enhancing the activating property, that characterize the composition of this invention, can be attained only by employing a combination of [A] an acetic acid ester of a sugar or sugar alcohol etc. as set forth above and [B] an acetic acid ester of a polyhydric alcohol having a melting point not higher than about 30 degree C.”

Nagakawa further teaches that the use of ingredient (**B**), e.g. ethylene glycol diacetate (a water-soluble bleaching activator) is “ineffective” as a bleaching activator when used without ingredient (**A**) (e.g., sorbitol hexacetate), even when combined with tetracetylethylene diamine. See Nakagawa Col. 3, line 63 to Col. 4, line 3.

Applicants’ various decontamination formulations, as recited in claims **1-4** and **6-7**, have been tested in a number of different experiments and shown to achieve extremely high rates of disinfection and sterilization (i.e., 7-8 log kill of *Bacillus globigii* spores in as short as 15 minutes) **without requiring the use of Nakagawa’s part (**A**)**.

Since Nakagawa teaches that ingredient (**B**) (i.e., a water-soluble bleaching activator) must be **combined** with ingredient (**A**) an acetic acid ester of a sugar or sugar alcohol etc. as set forth above, in order to have an effective bleaching activator; and since applicants have shown that ingredient (**A**) is not an essential component of an effective decontamination formulation (i.e., ingredient (**A**) is not a required element of claims **1-4** and **6-7**), it then follows that *Nakagawa et al.* does not anticipate or make unpatentable claims **1-4** and **6-7** under 35 USC 102(b) or 103(a), respectively.

Hence, the rejections of claims **1-4** and **6-7** are improper and should be withdrawn.

#### 14. Claims 3 and 6-7

The Office rejected claims **3** and **6-7** under 35 USC §103(a) as being unpatentable over *Tadros et al.* (WO 02/02192 A1) or *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) or *Kohlus et al.* US Patent Application Publication No. 2002/0132751 A1, all patents individually in view of *Nakagawa et al.* (3,901,819).

With respect to claim **3**, as currently amended, applicants respectfully traverse, as follows, for each pair of references cited:

(I) *Tadros et al.* (WO 02/02192 A1) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. Additionally, neither *Tadros et al.* (WO 02/02192 A1) or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-soluble bleaching activator comprising glycerol

dacetate or propylene glycol diacetate, and a freeze-point depressant comprising propylene glycol, wherein the formulation does not comprise a solubilizing compound selected from the group consisting of a cationic surfactant, a cationic hydrotrope, and a fatty alcohol comprising 8-20 carbon atoms, as is recited by claim 3. Also, neither reference teaches or suggests a freeze-point depressant comprising propylene glycol. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 3 are taught or suggested.

(II) *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. As discussed previously, both *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) are **disqualified** as references. Additionally, neither *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate, wherein the formulation does not comprise a solubilizing compound selected from the group consisting of a cationic surfactant, a cationic hydrotrope, and a fatty alcohol comprising 8-20 carbon atoms, as is recited by claim 3. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 3 are taught or suggested.

(III) *Kohlus et al.* US Patent Application Publication No. 2002/0132751 A1 in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. *Kohlus* does not teach a water-soluble bleaching activator; and *Nakagawa* requires the combination of a water-soluble bleaching activator with ingredient (A), an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 3 are taught or suggested.

With respect to claim 6-7, as currently amended, applicants respectfully traverse, as follows, for each pair of references cited:

(I) *Tadros et al.* (WO 02/02192 A1) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. *Tadros et al.* (WO 02/02192 does not teach a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate. *Nakagawa* requires the combination of a water-soluble bleaching activator with ingredient (A), an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 6-7 are taught or suggested.

(II) *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. As discussed previously, both *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) are **disqualified** as references. *Nakagawa* requires the combination of a water-soluble bleaching activator with ingredient (A), an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 6-7 are taught or suggested.

(III) *Kohlus et al.* US Patent Application Publication No. 2002/0132751 A1 in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. *Kohlus* does not teach a water-soluble bleaching activator; and *Nakagawa* requires the combination of a water-soluble bleaching activator with ingredient (A), an acetic acid ester of a

monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 6-7 are taught or suggested.

Additionally, with respect to claim 7, as currently amended, applicants respectfully traverse, as follows, for each pair of references cited:

(I) *Tadros et al.* (WO 02/02192 A1) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. Additionally, neither *Tadros et al.* (WO 02/02192 A1) or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 7 are taught or suggested.

(II) *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) in view of *Nakagawa et al.* (3,901,819):

All of the arguments presented above apply here. As discussed previously, both *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) are **disqualified** as references. Additionally, neither *Tadros et al.* (6,566,574) or *Tucker et al.* (6,723,890) or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 7 are taught or suggested.

15. Claims 1-2 and 4

The Office rejected claims **1-2** and **4** under 35 USC §102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over *Hardy et al.* (4,536,314).

In response, applicants amended claim **1** to limit the “bleaching activator” component to being:

*“a water-soluble bleaching activator selected from the group consisting of short-chained organic compounds that contain an ester bond, ethylene glycol diacetate, propylene glycol monomethyl ether acetate, methyl acetate, diethylene glycol monoethyl ether acetate, glycerol acetate (monoacetin), glycerol diacetate (diacetin), glycerol triacetate (triacetin), acetylcholine chloride, 4-cyanobenzoic acid, propylene glycol diacetate, and combinations thereof.”* See Specification at page 11, lines 17-23.

However, *Hardy et al.* does not teach any kind of a water-soluble bleaching activator.

Since *Hardy et al.* does not teach or suggest all of the elements of claim **1**, as currently amended, a *prima facie* case of anticipation or obviousness cannot be supported. Hence, the rejection of claim **1** under 35 U.S.C. 102(b) or 35 USC 103(a) is improper and should be withdrawn.

Since claims **2** and **4** depend from claim **1**, it follows that *Hardy et al.* does not teach all of the elements and limitations of dependent claims **2** and **4**. Hence, the rejections of claims **2** and **4** under 35 U.S.C. 102(b) or 35 USC 103(a) are improper and should be withdrawn.

16. Claims 3 and 6-7

The Office rejected claims **3** and **6-7** under 35 USC §103(a) as being unpatentable over *Hardy et al.* (4,536,314) in view of *Nakagawa et al.* (3,901,819).

With respect to claim **3**, as currently amended, applicants respectfully traverse. All of the arguments presented above apply here. Additionally, neither *Hardy et al.* or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-

soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate, wherein the formulation does not comprise a solubilizing compound selected from the group consisting of a cationic surfactant, a cationic hydrotrope, and a fatty alcohol comprising 8-20 carbon atoms, as is recited by claim 3. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 3 are taught or suggested.

With respect to claim 6-7, as currently amended, applicants respectfully traverse. All of the arguments presented above apply here. *Hardy et al.* does not teach a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate. *Nakagawa* requires the combination of a water-soluble bleaching activator with ingredient (A), an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, and mixtures thereof, said ester having at least 2 ester groups on the adjacent carbon atoms. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claims 6-7 are taught or suggested.

Additionally, with respect to claim 7, as currently amended, applicants respectfully traverse. All of the arguments presented above apply here. Additionally, neither *Hardy et al.* or *Nakagawa et al.* (3,901,819) teach the use of **potassium acetate** as an inorganic base for use in a decontamination formula comprising a reactive compound and a water-soluble bleaching activator comprising glycerol diacetate or propylene glycol diacetate. Hence, a *prima facie* case of obviousness cannot be supported, because not all of the elements of claim 7 are taught or suggested.

Claims 6 and 7 are now in condition for allowance.

#### 17. Claim 5

The Office rejected claims 5 under 35 USC §103(a) as being unpatentable over all of the previously cited references, plus *Huth et al.*

Claim 5 depends from claim 1. All of the rejections to claim 1 have been overcome, and claim 1 is now in condition for allowance. Hence, it follows that claim 5 is now in condition for allowance. Claim 5 depends from claim 1. All of the rejections to claim 1 have been overcome, and claim 1 is now in condition for allowance. Hence, it follows that claim 5 is now in condition for allowance.

Claims 2-5 depend from claim 1. Accordingly, claims 2-5 are now in condition for allowance.

New Claim 29

New claim 29 was added, which depends from claim 1. Claim 29 further limits claim 1 by requiring that the "inorganic base" ingredient be selected from the following list of compounds:

potassium carbonate, potassium bicarbonate, potassium hydroxide, potassium sulfate, potassium phosphate (dibasic or tribasic), potassium borate, potassium tetraborate, potassium acetate, sodium carbonate, sodium bicarbonate, sodium hydroxide, sodium sulfate, sodium phosphate (dibasic or tribasic), sodium borate, sodium acetate, ammonium carbonate, ammonium bicarbonate, ammonium hydroxide, ammonium sulfate, ammonium phosphate (dibasic or tribasic), ammonium borate, ammonium acetate, calcium carbonate, calcium bicarbonate, calcium hydroxide, calcium sulfate, calcium phosphate (dibasic or tribasic), calcium borate, calcium acetate, magnesium carbonate, magnesium bicarbonate, magnesium hydroxide, magnesium sulfate, magnesium phosphate (dibasic or tribasic), magnesium borate, magnesium acetate, sodium percarbonate, ammonium hydrogen bicarbonate and lithium bicarbonate, and combinations thereof.

Support can be found in the Specification at page 19, lines 5-20. No new matter has been added.

### Double Patenting Rejections

The Office rejected claims 1-7 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the following patents or patent applications:

6,566,574 Tadros et al.

6,723,890 Tucker et al.

10/251,569 Tucker, filed 9/20/02, SD-7209

10/623,370 Tucker et al. filed 7/18/03, SD-7250

10/740,317 Tucker et al. filed 12/18/03, SD-7385

10/850,802 Tucker et al. filed 5/21/04, SD-7458

**Terminal Disclaimer** statements have been attached to this reply for the above pair of commonly owned issued patents (See Appendix A), and for the above 4 commonly owned co-pending patent applications (See Appendix B). All of these patents and co-pending patent applications are 100% commonly owned by Sandia Corporation.

The filing herein of these Terminal Disclaimer statements overcomes the rejections of claims 1-26 under the judicially created doctrine of obviousness-type double patenting.

## CONCLUSION

Applicants have responded to each and every objection and rejection, and urge that claims 1-7, and new claim 29 as presented and amended are now in condition for allowance. All of the elected claims 1-7 have been narrowed in order to place the application in a better condition for allowance or Appeal. Applicants request expeditious processing to issuance.

The Office is authorized to charge **Deposit Account # 19-0131** for any necessary fees regarding this response.

Respectfully submitted,

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## **Appendix A**

**Terminal Disclaimer to Obviate a Double Patenting Rejection over a  
pair of “Prior” Patents**

## **Appendix B**

**Terminal Disclaimer to Obviate a Provisional Double Patenting  
Rejection over 4 Pending “Reference” Applications,**

**and**

**Continuation List of 4 Pending Reference Application Numbers and  
their Filing Dates**

**Continuation List of Commonly Owned, Co-Pending Patent  
Applications\* referred to in the Terminal Disclaimer to Obviate a  
Provisional Double Patenting Rejection over a Pending “Reference”  
Application,  
Form PTO/SB/25 (09-04)**

<u>Pending Reference Application Number</u>	<u>Filed On</u>
10/251,569	09/20/2002
10/623,370	07/18/2003
10/740,317	12/18/2003
10/850,802	05/21/2004

\*Commonly owned by Sandia Corporation